

Amendments to The Claims

The following listing of claims replaces all prior versions and listings of the claims in this application.

Listing of the Claims

1-193. (Cancelled)

194. (Currently amended) A recombinant cell that expresses a heteromeric taste receptor that responds to umami taste stimuli, wherein said receptor is comprised of at least one T1R1 polypeptide and at least one T1R3 polypeptide that specifically binds to and/or is activated by umami taste stimuli, wherein said T1R1 polypeptide is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 8, (ii) encoded by a nucleic acid sequence comprising a nucleic acid that hybridizes to SEQ. ID. NO: 8 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS, or (iii) a T1R1 polypeptide possessing at least 95% sequence identity to the T1R1 polypeptide of SEQ. ID. NO: 5;

and wherein said T1R3 polypeptide is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 9 or SEQ. ID. NO: 11; (ii) encoded by a nucleic acid sequence that hybridizes to SEQ. ID. NO: 9 or SEQ. ID. NO: 11 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, 10% SDS; and washing at 65°C in a solution comprising 0.2X SCC and 0.1% SDS, or (iii) a T1R3 polypeptide possessing at least 95% sequence identity to the T1R3 polypeptide of SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

195. (Previously presented) The cell of claim 194, which is selected from the group consisting bacterial, yeast, mammalian, amphibian and insect cells.

196. (Previously presented) The cell of claim 194, wherein said cell is a prokaryotic cell.

197. (Previously presented) The cell of claim 194, wherein said cell is a eukaryotic cell.

198. (Previously presented) The cell of claim 197, wherein the eukaryotic cell is a CHO, HEK-293, COS or Xenopus oocyte.

199. (Previously presented) The cell of claim 194, wherein said T1R1 and T1R3 are derived from different species.

200. (Currently amended) The method of claim ~~199~~ 194, wherein said T1R1 and T1R3 are of the same species.

201. (Previously presented) The method of claim 194, wherein said T1R1 is selected from mouse T1R1, rat T1R1, human T1R1 and said T1R3 is selected from mouse T1R3, rat T1R3 and human T1R3.

202. (Previously presented) The cell of claim 194, wherein T1R1 and T1R3 nucleic acid sequences are stably integrated into said cell.

203. (Currently amended) The cell of claim 194, wherein T1R1 and T1R3 nucleic acid sequences ~~are comprised on~~ comprise an extrachromosomal element.

204. (Currently amended) The cell of claim 194, wherein T1R1 and T1R3 nucleic acid sequences are operably linked to a ~~constitutional~~ constitutive promoter.

205. (Previously presented) The cell of claim 194, wherein T1R1 and T1R3 nucleic acid sequences that are operably linked to an inducible promoter.

206. (Previously presented) The cell of claim 194, which further expresses a G protein.

207. (Previously presented) The cell of claim 206, wherein said G protein is $G\alpha_{15}$, $G\alpha_{16}$ or gustducin.

208. (Currently amended) The cell of claim 194, wherein ~~T1R3~~ T1R1 polypeptide has the amino acid sequence ~~contained in~~ of SEQ. ID. NO: 5.

209. (Currently amended) The cell of claim 194, wherein T1R1 has an amino acid sequence that possesses at least 90% 95% sequence identity to the amino acid sequence ~~contained in~~ of SEQ. ID. NO: 5 ~~or a fragment thereof that when expressed in association with a T1R3 polypeptide results in a functional umami taste receptor.~~

210. (Canceled)

211. (Currently amended) The cell of claim 209, wherein said T1R1 polypeptide has at least 96% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. No: 5.

212. (Currently amended) The cell of claim 209, wherein said T1R1 polypeptide has at least 97% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. No: 5.

213. (Currently amended) The cell of claim 209, wherein said T1R1 polypeptide has at least 98% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. No: 5.

214. (Currently amended) The cell of claim 209, wherein said T1R1 polypeptide has at least 99% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. No: 5.

215. (Currently amended) The cell of claim ~~209~~ 194, wherein said T1R1 polypeptide is encoded by the nucleic acid sequence ~~contained in~~ of SEQ. ID. NO: 8 ~~or a fragment thereof that when expressed in association with a T1R3 polypeptide results in a functional umami taste receptor.~~

216. (Currently amended) The cell of claim ~~209~~ 194, wherein said T1R1 polypeptide is encoded by a nucleic acid sequence that ~~specifically hybridizes to the sequence contained in~~ SEQ. ID NO: 8 under stringent hybridization conditions hybridizes to SEQ ID NO: 8 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS.

217. (Currently amended) The cell of claim 194, wherein T1R3 polypeptide has the amino acid sequence ~~contained in~~ of SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

218. (Currently amended) The cell of claim 194, wherein T1R3 polypeptide has an amino acid sequence that possesses at least 95% sequence identity to the amino acid sequence ~~contained in~~ of SEQ. ID. NO: 4 or SEQ. ID. NO: 7 or a fragment thereof that when expressed in association with a T1R1 polypeptide results in a functional umami taste receptor.

219. (Canceled)

220. (Currently amended) The cell of claim 218, wherein said T1R3 polypeptide exhibits at least 96% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

221. (Currently amended) The cell of claim 218, wherein said T1R3 polypeptide exhibits at least 97% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

222. (Currently amended) The cell of claim 218, wherein said T1R3 polypeptide exhibits at least 98% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

223. (Currently amended) The cell of claim 218, wherein said T1R3 polypeptide exhibits at least 99% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

224. (Currently amended) The cell of claim ~~218~~ 194, wherein said T1R3 polypeptide is encoded by the nucleic acid sequence ~~contained in~~ of SEQ. ID. NO: 9 or SEQ. ID. NO: 11.

225. (Currently amended) The cell of claim ~~218~~ 194, wherein said T1R3 polypeptide is encoded by a nucleic acid sequence that ~~hybridizes under stringent hybridization conditions to the nucleic acid sequence contain in~~ SEQ. ID NO: 9 hybridizes to SEQ. ID. NO: 9 or SEQ. ID. NO: 11 under stringent hybridization conditions which are conducting the hybridization

reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS or a fragment thereof that when expressed in association with a T1R1 polypeptide yields a functional umami taste receptor.

226. (Currently amended) The cell of claim 194, which expresses a T1R1 polypeptide having comprising SEQ. ID. NO: 5 and a T1R3 polypeptide having comprising SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

227. (Previously presented) The cell of claim 226, which is a eukaryotic cell.

228. (Previously presented) The cell of claim 227, which as a mammalian, yeast, amphibian or insect cell.

229. (Previously presented) The cell of claim 227, which is a CHO, COS, HEK-293 or Xenopus oocyte.

230. (Previously presented) The cell of claim 229, which is an HEK-293 cell.

231. (Previously presented) The cell of claim 229, which stably expresses said T1R1 and T1R3 polypeptides.

232. (Previously presented) The cell of claim 229, which transiently expresses said T1R1 and T1R3 polypeptides.

233. (Previously presented) The cell of claim 226, which further expresses a G protein.

234. (Previously presented) The cell of claim 233, wherein said G protein is $G_{\alpha_{15}}$, $G_{\alpha_{15}}$ or gustducin.

235. (New) A recombinant cell that expresses a heteromeric taste receptor that responds to umami taste stimuli, wherein said receptor is comprised of at least one T1R1 polypeptide and at least one T1R3 polypeptide, wherein said T1R1 polypeptide is a T1R1 polypeptide possessing at least 95% sequence identity to the human, mouse, or rat T1R1 of Figure 1; and wherein

said T1R3 polypeptide is a T1R3 polypeptide possessing at least 95% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

236. (New) The cell of claim 235, which is selected from the group consisting bacterial, yeast, mammalian, amphibian and insect cells.

237. (New) The cell of cell 235, wherein said cell is a prokaryotic cell.

238. (New) The cell of claim 235, wherein said cell is a eukaryotic cell.

239. (New) The cell of claim 238, wherein the eukaryotic cell is a CHO, HEK-293, COS or Xenopus oocyte.

240. (New) The cell of claim 235, wherein said T1R1 and T1R3 are derived from different species.

241. (New) The method of claim 235, wherein said T1R1 and T1R3 are of the same species.

242. (New) The cell of claim 235, which further expresses a G protein.

243. (New) The cell of claim 246, wherein said G protein is $G\alpha_{15}$, $G\alpha_{16}$ or gustducin.

244. (New) The cell of claim 235, wherein T1R1 polypeptide is the human, mouse, or rat T1R1 of Figure 1.

245. (New) The cell of claim 235, wherein said T1R1 polypeptide has at least 96% sequence identity to the human, mouse, or rat T1R1 of Figure 1.

246. (New) The cell of claim 235, wherein said T1R1 polypeptide has at least 97% sequence identity to the human, mouse, or rat T1R1 of Figure 1.

247. (New) The cell of claim 235, wherein said T1R1 polypeptide has at least 98% sequence identity to the human, mouse, or rat T1R1 of Figure 1.

248. (New) The cell of claim 235, wherein said T1R1 polypeptide has at least 99% sequence identity to the human, mouse, or rat T1R1 of Figure 1.

249. (New) The cell of claim 235, wherein T1R3 polypeptide is the human, mouse, or rat T1R3 of Figure 1.

250. (New) The cell of claim 235, wherein said T1R3 polypeptide has at least 96% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

251. (New) The cell of claim 235, wherein said T1R3 polypeptide has at least 97% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

252. (New) The cell of claim 235, wherein said T1R3 polypeptide has at least 98% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

253. (New) The cell of claim 235, wherein said T1R3 polypeptide has at least 99% sequence identity to the human, mouse, or rat T1R3 of Figure 1.